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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,041	07/03/2006	Atsushi Miyawaki	P28993	3770

7055 7590 03/15/2010

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EXAMINER	
BRADLEY, CHRISTINA	
ART UNIT	PAPER NUMBER
1654	

NOTIFICATION DATE	DELIVERY MODE
03/15/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/561,041	MIYAWAKI ET AL.	
	Examiner	Art Unit	
	CHRISTINA BRADLEY	1654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 January 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) *1-17 and 20-35* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *18 and 19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 July 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/1/09,2/6/07,8/17/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 1-17 and 20-35 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 01/08/2010.

Information Disclosure Statement

2. The information disclosure statement filed 09/01/2009 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the non-patent literature citations do not include titles. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Specification

3. The use of the trademark MILLIQ, TRIZOL, TAQ and PYROBEST have been noted in this application. They should be capitalized wherever they appear and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Objections

4. Claim 18 is objected to because part b) recites a "DNA which has an amino acid sequence...". Based on part a) of claim 18 and the specification which describes fluorescent proteins and DNA encoding them, part b) of claim 18 appears to be an inadvertent error. The rest of the claim and the specification imply that part b) should read "DNA encoding an amino acid...". Correct is required.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 18 and 19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 18 and 19 encompass DNA found in Acropora sp. which is product of nature. This rejection can be overcome by amending the claims to include the word "isolated" prior to DNA.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 18 and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

MPEP § 2163 states that the written description requirement for a claimed genus may be satisfied through sufficient description of a representative number of species by actual reduction to practice, or by disclosure of relevant, identifying characteristics, i.e., structure or other physical and/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the claimed genus. A "representative number of species" means that the species which are adequately described are representative of the entire genus. Thus, when there is substantial variation within the genus, one must describe a sufficient variety of species to reflect the variation within the genus.

Scope of the claimed genus

Claims 18 and 19 are drawn DNA encoding SEQ ID NO: 5 or 7, DNA encoding a fluorescent protein with at least one substitution, deletion or addition relative to SEQ ID NOs: 5 or 7, DNA comprising SEQ ID NO: 6 or 8, or DNA comprising SEQ ID NO: 6 or 8 with at least substitution, deletion or addition.

Assessment of whether species are supported in the original specification

Two embodiments of the invention of claims 18 and 19 were reduced to practice at the time of filing. The specification teaches the complete structure of DNA of SEQ ID NOs: 6 and 8 which encodes a fluorescent protein of SEQ ID NOs: 5 and 7, respectively. The specification also teaches distinguishing characteristics of the fluorescent proteins encoded by this DNA. For example, the proteins are derived from Acropora sp. and are characterized by having an excitation maximum wavelength of 472 nm, a fluorescent emission maximum wavelength of 496 nm, a molar extinction coefficient of 27,250, a quantum yield of 0.9 and a pH sensitivity pKa of

6.6. For these reasons, the skilled artisan would reasonably conclude that the inventor(s), at the time the application was filed, had possession of SEQ ID NOs: 6 and 8 at the time the invention was filed.

Assessment of whether disclosed species are representative of the claimed genus

MPEP § 2163 states that a "representative number of species" means that the species which are adequately described are representative of the entire genus. Thus, when there is substantial variation within the genus, one must describe a sufficient variety of species to reflect the variation within the genus.

In the instant case, the claims allow for an unlimited number of substitutions, deletions and additions to SEQ ID NOs: 6 and 8. The claims also allow for DNA encoding a protein with an unlimited number of substitutions, deletions and additions provided that it is fluorescent. The extensive modification permitted by the claims expands the scope of the genus to include a wide variety of DNAs encoding a diverse set of proteins of different length and sequence. Given the breadth of the claimed genus, the two single DNAs reduced to practice are not representative of the genus.

Identifying characteristics and structure/function correlation

In the absence of a reduction to practice of a representative number of species, the written description requirement for a claimed genus may be satisfied by disclosure of relevant, identifying characteristics, i.e., structure or other physical and/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the claimed genus. To meet this requirement in the instant case, the

specification must describe the structural, physical and/or chemical properties of a DNA that lead to the claimed function of encoding a fluorescent protein. The instant specification fails to describe a correlation between the structure of the DNA (or the protein encoded by it) and the fluorescent properties of the protein. The specification does not describe which residues make up the chromophore of the protein or how other residues outside of the chromophore influence its spectral properties. The specification does not describe which positions can be changed or modified and in what manner while preserving fluorescence.

In conclusion, for these reasons, the skilled artisan would not reasonably conclude that the inventor(s), at the time the application was filed, had possession of the full scope of the claimed invention. Only those SEQ ID NOs: 6 and 8 satisfy the written description requirements of 35 U.S.C. 112, first paragraph.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 18 and 19 are rejected under 35 U.S.C. 102(a) as being anticipated by Karasawa et al. ("Cyan-emitting and orange-emitting fluorescent proteins as a donor/acceptor pair for fluorescence resonance energy transfer." *Biochem. J.*, published 5 April 2004, *381*, 307-312), as

evidenced by GenBank: AB128822.1. Karasawa et al. teach a nucleotide that is 100% identical to instant SEQ ID NO: 6, which encodes an amino acid sequence that is 100% identical to instant SEQ ID NO: 5, as evidenced by GenBank AB128822.1. The protein is a fluorescent protein.

11. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

12. Claims 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Matz et al. (US 7,160,698). Matz et al. teach SEQ ID NOs: 82, 84, 89, 73, 81, 80, 79, 83, 88, 87, 74, 75 and 72 which is DNA encoding fluorescent proteins SEQ ID NOs: 56, 58, 63, 47, 55, 54, 53, 57, 62, 61, 48, 49 and 46, respectively. These proteins which are derived from Acropora sp. share a high degree of homology with instantly claimed SEQ ID NO: 5. SEQ ID NOs: 56, 58, 63, 47, 55, 54, 53, 57, 62, 61, 48, 49 and 46 of Matz et al. are 90.5, 90.3, 88.7, 88.4, 88.1, 87, 86.8, 85.8, 85.5, 85.5, 85.5, 80, 79.5 and 79.2 % identical to SEQ ID NO: 5 and therefore meet the limitations in part b) of claims 18 and 19.

13. Claims 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by each of the following patents or publications (each are independent rejections presented together for the sake of brevity and each are the subject of a double patenting rejection below):

claims 1-27 of U.S. Patent No. 7,060,869;

claims 1-8 of U.S. Patent No. 7,226,993;

claims 1-4 of U.S. Patent No. 7,345,157;

claims 1-9 of U.S. Patent No. 7,504,491;

claims 1-8 of U.S. Patent No. 7,541,451;

claims 1-9 of U.S. Patent No. 7,547,528.

claims 1-9 of U.S. Patent No. 7,375,201; and

claims 14-19 of US 2005/0208624.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Each of the patents and publications cited above teach nucleic acids encoding fluorescent proteins (see the claims of each) which are not identical to instant SEQ ID NOs: 5 and 7 and therefore must include at least one substitution, addition or deletion relative to SEQ ID NOs: 5 and 7, satisfying part b) of instant claims 18 and 19.

14. Claims 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,998,204. '204 teaches nucleic acids encoding fluorescent proteins (see claims 1-21) which are not identical to instant SEQ ID NOs: 5 and 7 and therefore must include at least one substitution, addition or deletion relative to SEQ ID NOs: 5 and 7, satisfying part b) of instant claims 18 and 19.

15. Claims 18 and 19 are rejected under 35 U.S.C. 102(a) and (e) as being anticipated U.S. Patent No. 6,627,449. '449 teaches nucleic acids encoding fluorescent proteins (see claims 1-27) which are not identical to instant SEQ ID NOs: 5 and 7 and therefore must include at least one substitution, addition or deletion relative to SEQ ID NOs: 5 and 7, satisfying part b) of instant claims 18 and 19.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

17. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papina et al. ("Separation of highly fluorescent proteins by SDS-PAGE in Acroporidae corals," *Comparative Biochemistry and Physiology Part B*, 131 (2002) 767–774) in view Gibbs et al. (US 2004/0110225).

Papina et al. teach the spectral properties of *Acropora tenuis*, *A. nasuta*, *A. secale*, and *A. aspera* and the isolation of fluorescent proteins from these coral using SDS-PAGE (abstract).

The spectral properties of the isolated proteins are as follows and are very similar to those reported in the instant specification for SEQ ID NO: 5 and 7:

Table 1
The summary of the fluorescence excitation and emission wavelengths of intact corals and fluorescent compounds separated by SDS-PAGE.

Acropora species and the color of fluorescent band	Peaks (nm)	
	Excitation	Emission
A. tenuis		
Intact coral	465, 505[a]	485, 517[a], 555[b]
Green band	470, 504[a]	480, 515[a]
A. nasuta		
Intact coral	430[b], 451[a]	482[a], 515[b]
Green band	427[a], 451[b]	483[a]
A. secale		
Intact coral	450[a], 502	484[a], 515[b]
Green band	425, 452[a], 500[b]	482[a], 515[b]
A. aspera		
Intact coral	480, 501[a]	490[b], 514[a]
Green band	481[a]	480[a], 510
Orange band I	475[b], 500[a]	476[a], 510[b], 575[b]
Orange band II	475[b], 501[a]	478[a], 510, 575[b]

[a] Major peak.
[b] Shoulder.

Papina et al. do not teach DNA encoding these proteins.

Gibbs et al. teach a method of cloning and characterizing the DNA that encodes fluorescent proteins in coral Examples 1-3). The method comprises the steps of 1) obtaining coral colonies; 2) isolating RNA using the TOTALLY RNA kit (Catalog # 1902, Ambion, Inc., Austin, Tex.); 3) amplifying cDNAs from the total isolated RNA using the FIRST CHOICE RLM-RACE kit (catalog # 1700, Ambion, Inc.); 4) ligating gel purified cDNA into the pCR II cloning vector (Invitrogen, Carlsbad, Calif.); transforming resultant plasmids into Top 10 E. coli (Invitrogen); 5) growing transformed bacteria were grown on LB-ampicillin (100 μg/ml) plates; 6) screening colonies for fluorescence using a Leica MZFLIII fluorescence stereo dissection microscope; 7) picking single fluorescent colonies, restreaking for several rounds to resolve

mosaicism, and growing in liquid culture; 8) preparing plasmid DNA using the Qiagen Midi kit (Qiagen, Valencia, Calif.); and 9) sequencing the DNA.

It would have been obvious to one of ordinary skill in the art to use the method taught by Gibbs et al. to clone the DNA encoding the fluorescent proteins taught by Papina et al. The skilled artisan would have been motivated to do so in order to characterize the sequence of the fluorescent proteins and to further their biochemical characterization. There would have been a reasonable expectation of success given that the method taught by Gibbs et al. does not require any prior knowledge of the protein or DNA sequence.

Given that the spectral properties of the proteins reported by Papina et al. are substantially the same as those reported in the instant specification for SEQ ID NOs: 5 and 7, and given that the proteins taught by Papina et al. and instant SEQ ID NOs: 5 and 7 are all from Acropora, there is a reasonable expectation that Papina et al. in fact teach proteins of SEQ ID NOs: 5 and 7. Accordingly, applying the method of Gibbs et al. to clone DNA encoding these proteins would produce DNA of SEQ ID NOs: 6 or 8 and encoding SEQ ID NOs: 5 or 7, which would read on part a) of claims 18 and 19. The Examiner is not equipped to determine the sequences of the proteins taught by Papina et al. MPEP § 2112.V states: "Once a reference teaching product appearing to be substantially identical is made the basis of a rejection, and the examiner presents evidence or reasoning tending to show inherency, the burden shifts to the Applicant to show an unobvious difference. '[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on *prima facie* obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the

same...[footnote omitted].' The burden of proof is similar to that required with respect to product-by-process claims. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977))." In the instant case, the burden of proof is shifted to Applicant to establish an unobvious difference between the proteins of Papina et al. and instant SEQ ID NOs: 5 and 7. Note that MPEP § 2112.I states "Something which is old does not become patentable upon the discovery of a new property." The property includes sequence information. In *In re Crish*, 393 F.3d 1253, 1258, 73 USPQ2d 1364, 1368 (Fed. Cir. 2004), the court held that the claimed promoter sequence obtained by sequencing a prior art plasmid that was not previously sequenced was anticipated by the prior art plasmid which necessarily possessed the same DNA sequence as the claimed oligonucleotides."

Thus, the invention as a whole was clearly *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Double Patenting

18. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

19. Claims 18 and 19 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over each of the following patents (each are independent rejections presented together for the sake of brevity):

claims 1-21 of U.S. Patent No. 5,998,204;

claims 1-27 of U.S. Patent No. 6,627,449;

claims 1-27 of U.S. Patent No. 7,060,869;

claims 1-8 of U.S. Patent No. 7,226,993;

claims 10-16 of U.S. Patent No. 7,247,449;

claims 1-9 of U.S. Patent No. 7,375,201;

claims 1-4 of U.S. Patent No. 7,345,157;

claims 1-9 of U.S. Patent No. 7,504,491;

claims 1-8 of U.S. Patent No. 7,541,451; and

claims 1-9 of U.S. Patent No. 7,547,528.

20. Claims 18 and 19 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over each of the following copending applications (each are independent rejections presented together for the sake of brevity):

claims 14-19 of copending Application No. 11/042,158;

claims 7-10 and 13-18 of copending Application No. 11/569,275;

claims 8 and 11-13 of copending Application No. 10/561,040;

claims 4-6 of copending Application No. 12/569,464;

claims 1-6 of copending Application No. 12/463,271; and

claims 4, 7, 10, 11 and 18 of copending Application No. 10/581,551.

21. Although the conflicting claims are not identical, they are not patentably distinct from each other because each of the above cited patents or applications claim DNA encoding a fluorescent protein that is not identical to SEQ ID NOs: 5 or 7 and which therefore must include at least one substitution, deletion or addition with respect to instant SEQ ID NOs: 5 or 7.

Conclusion

22. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINA BRADLEY whose telephone number is (571)272-9044. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday 8:30 A.M. to 4:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on (571) 272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christina Marchetti Bradley/
Examiner, Art Unit 1654

cmb